

Oroville Facilities Relicensing Project

California Department of Water Resources



Study Plan SPW-7

Land and Watershed Management Effects on Water Quality

Task 1. Effects to Water Quality from Ongoing Land Uses and Management

Task 1B. Evaluation of Potential Effects to Water Quality

Presented by
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Land and Watershed Management Effects on Water Quality

Study Objective: Evaluate and monitor the potential effects of land and watershed management, operations, and activities on the physical, chemical, and biological integrity of project waters.

Implementation: SPW-7 Task 1A identified the types of land-use management activities in the project area and potential impacts to water quality from these activities (Report, March 27, 2003).

SPW-7 Task 1B implemented monitoring of specific land-uses with the potential to introduce contaminants into project waters. Sampling commenced at selected sites in May 2003.

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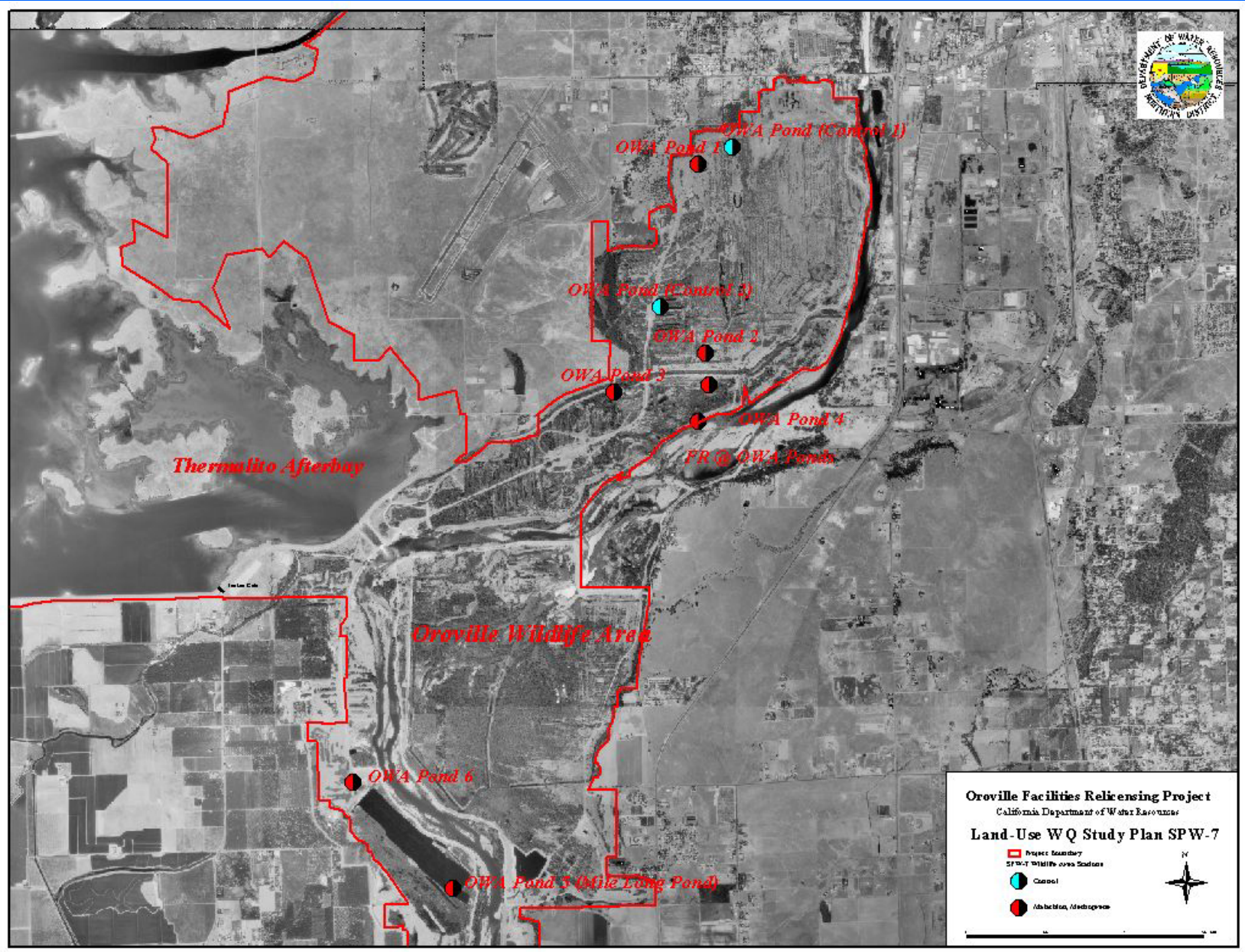
Land and Watershed Management Effects on Water Quality

Land-Use Issue:

Mosquito control with methoprene and malathion within the Oroville Wildlife Area by Butte County MVCD

Implementation:

Monthly sampling for methoprene and malathion was performed at six experimental and two control ponds within the Oroville Wildlife Area from May 2003 to November 2003. The samples were tested for a total of 71 byproducts or congeners of methoprene and malathion.



SPW-7 Land-Use WQ Sampling - Methoprene & Malathion Sampling -

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Results

Methoprene, malathion, and any other byproducts were not detected in any of the water samples.

Study Conclusion

There is no apparent effect to the water quality in the Oroville Wildlife Area ponds from treatment with methoprene and malathion.

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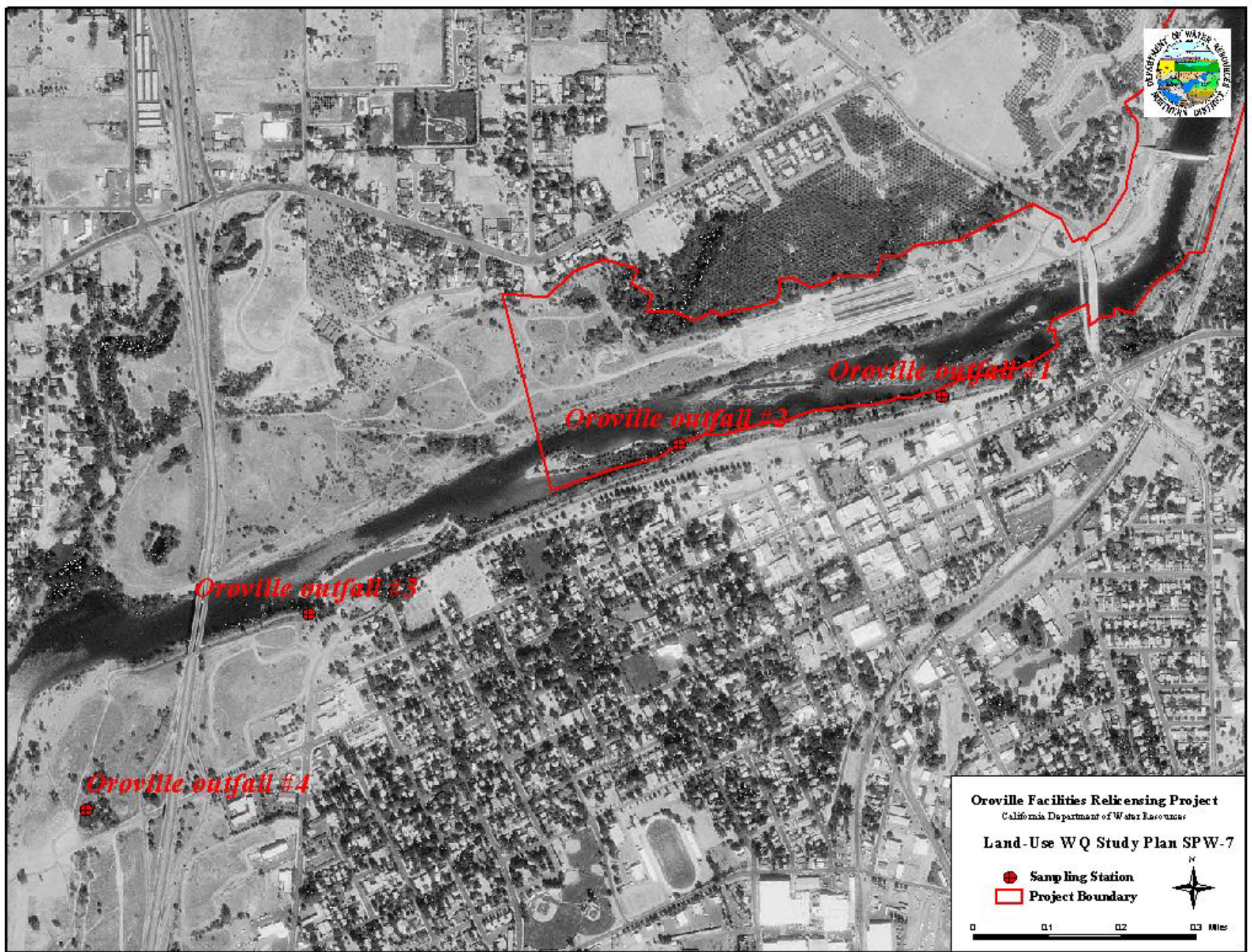
Land and Watershed Management Effects on Water Quality

Land-Use Issue:

Stormwater runoff of bacteria, metals, nutrients, petroleum byproducts, and pesticides into project waters from the urbanized area of the city of Oroville.

Implementation:

Sampling at three major stormwater outfalls within the City of Oroville and one at Kelly Ridge was performed in November and December 2003.



SPW-7 Land-Use WQ Sampling - Urban Sampling -

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Results

All samples exceeded the recommended bacteria water quality criteria for **total coliform, fecal coliform, and enterococcus bacteria**. Minerals, nutrients, and most metals did not exceed criteria. **Total aluminum, arsenic (total and dissolved), total iron, total manganese, and zinc (total and dissolved)** exceeded water quality criteria, though most were at background levels. **Zinc** was well above the background level.

Study Conclusion

There may be some effect to water quality in project waters from the bacteria and metals in the storm runoff from the urbanized land-use areas of Oroville.